Global Tropics Hazards And Benefits Outlook
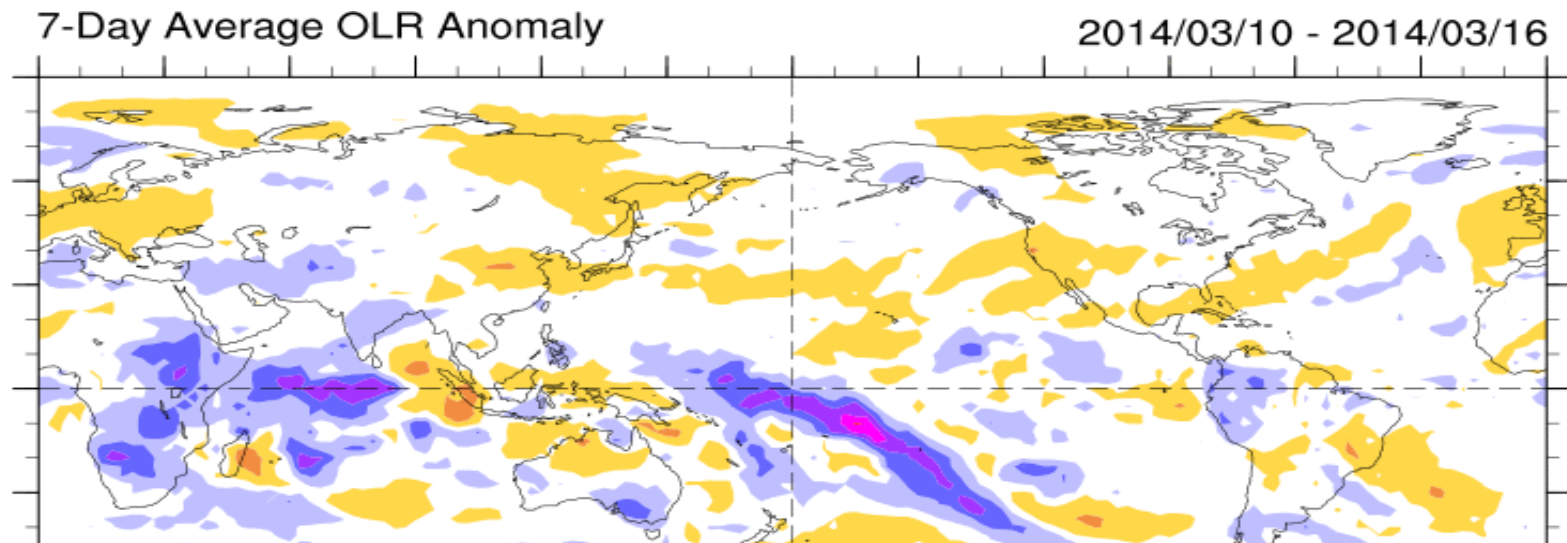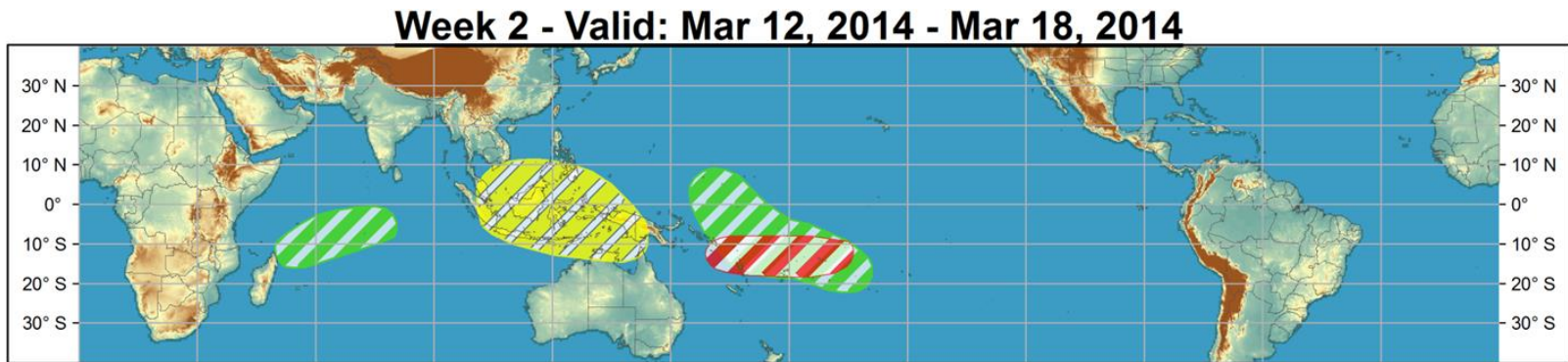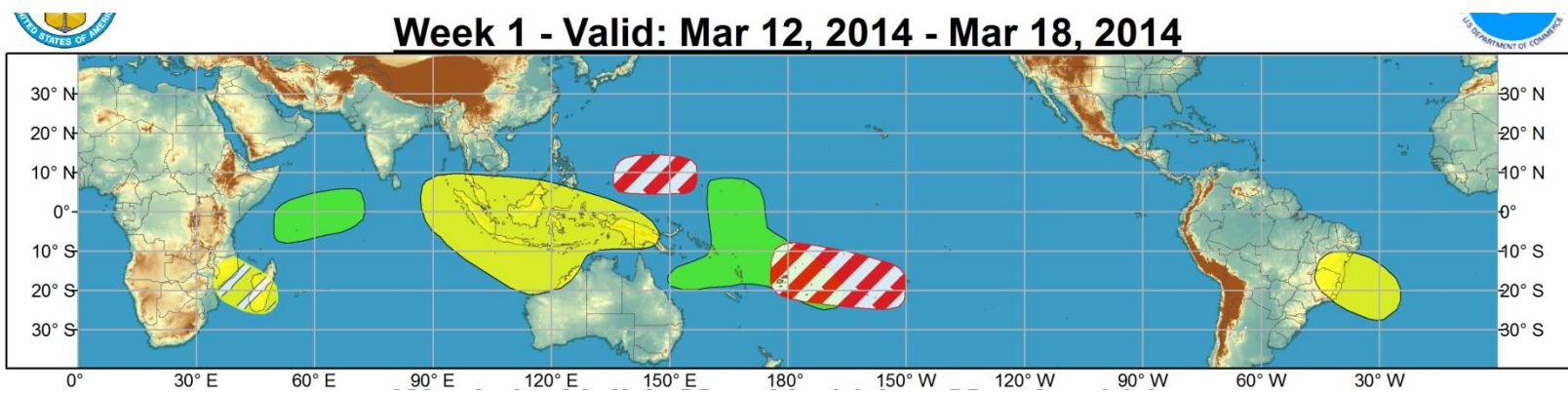## March 18, 2014

Adam Allgood

Outline

1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review

Week 1 - Valid: Mar 12, 2014 - Mar 18, 2014

Week 2 - Valid: Mar 12, 2014 - Mar 18, 2014

7-Day Average OLR Anomaly   2014/03/10 - 2014/03/16

Synopsis of Climate Modes

ENSO:
• ENSO-neutral is expected to continue through the Northern Hemisphere spring 2014, with about a 50% chance of El Niño developing during the summer or fall.

• ENSO Alert System Status: El Niño Watch

MJO and other subseasonal tropical variability:
• The MJO remained active over the past week, although observational indicators became less coherent due to destructive interference with other modes of organized tropical convection anomalies. The MJO enhanced phase is emerging over the western Indian Ocean.

• There is considerable spread among dynamical forecast model depictions of the future evolution of the MJO, with some weakening the signal and others propagating a signal through the Indian Ocean.

• There is also a variety of model solutions for resolving the interactions between the slowly evolving oceanic and atmospheric conditions over the west-central Pacific with the suppressed phase of the MJO.
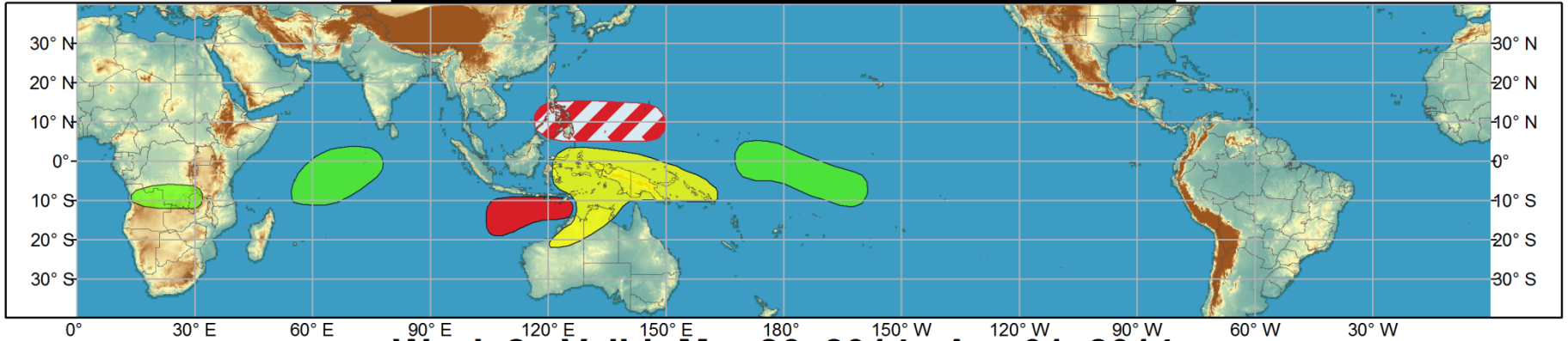
Extratropics:
• Based on the complexity of the current global tropical pattern, significant extratropical impacts are uncertain.
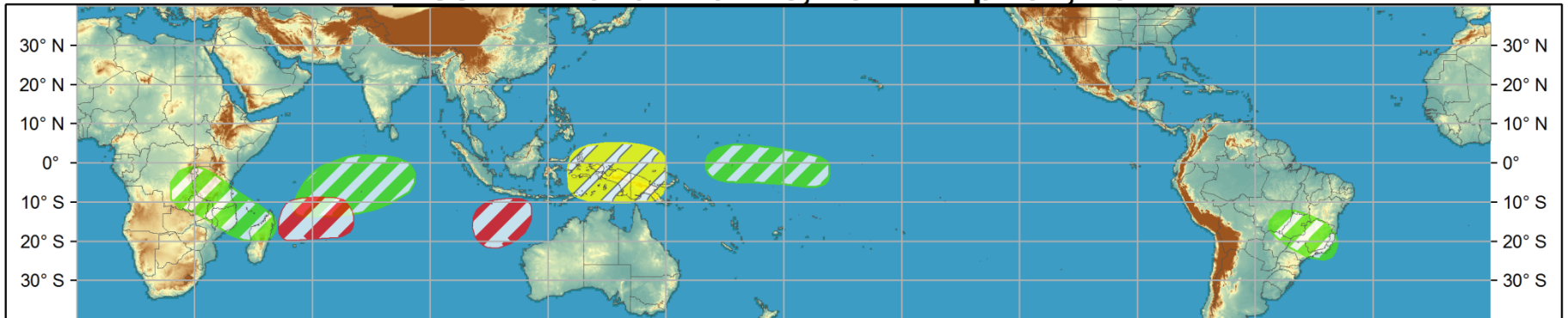
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Mar 19, 2014 - Mar 25, 2014

Week 2 - Valid: Mar 26, 2014 - Apr 01, 2014

Produced: 03/18/2014

Forecaster: Allgood

Confidence

High | Moderate

Tropical Cyclone Formation — Development of a tropical cyclone that eventually reaches tropical storm/cyclone strength.

Above-average rainfall — Weekly total rainfall in the upper third of the historical range.

Below-average rainfall — Weekly total rainfall in the lower third of the historical range.

Above-normal temperatures — 7-day mean temperatures in the upper third of the historical range.

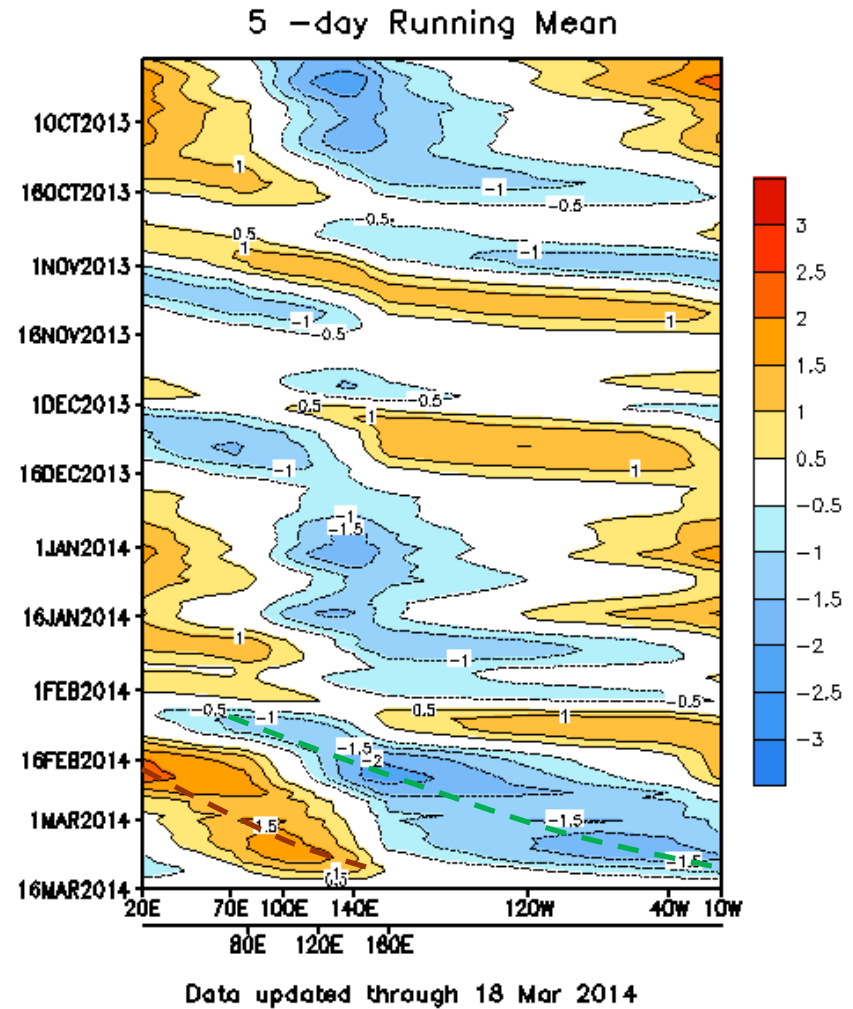**Below-normal temperatures** — 7-day mean temperatures in the lower third of the historical range.

Product is updated once per week. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.

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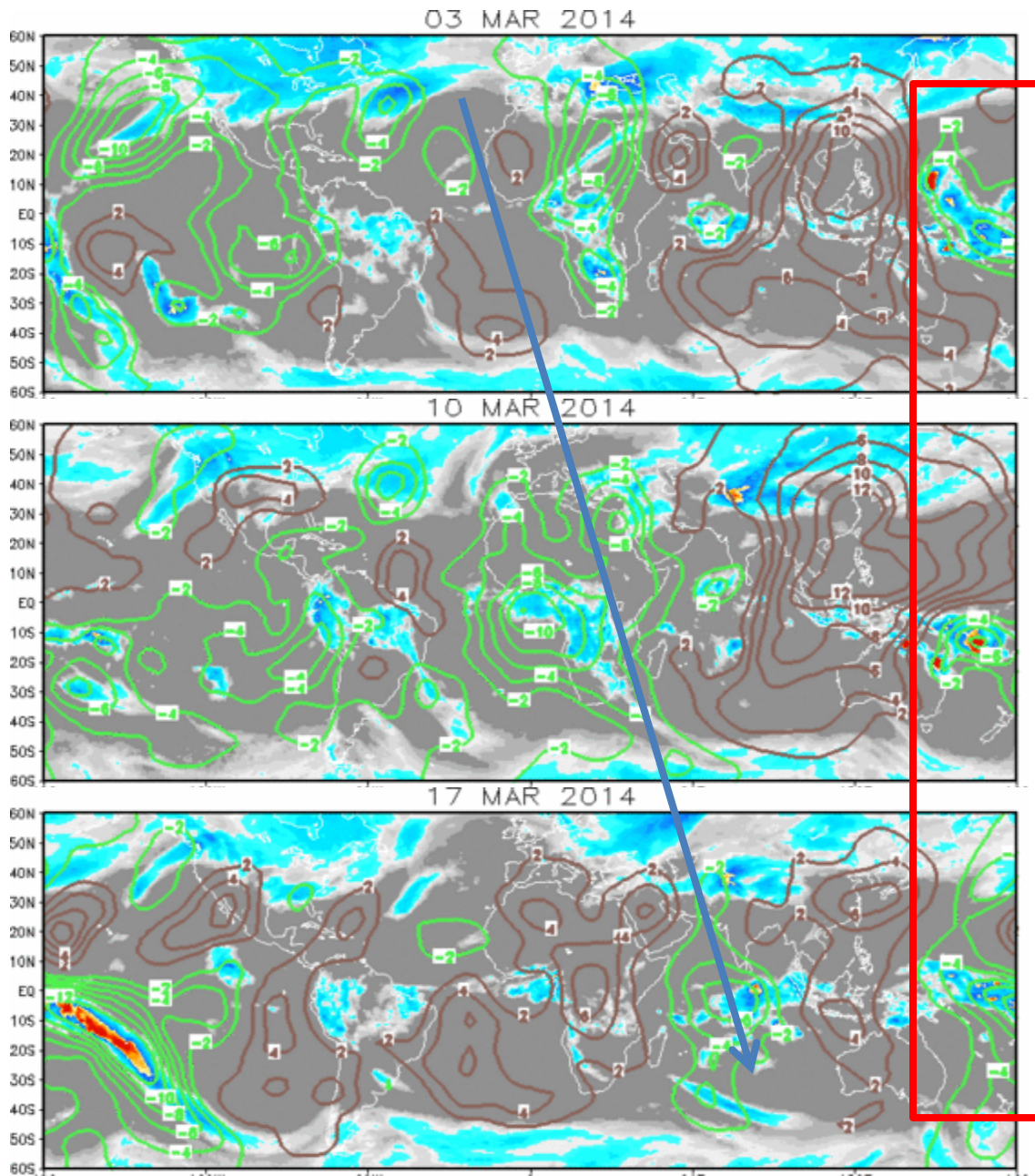NPS PRAESTANTIA PER SCIENTIAM
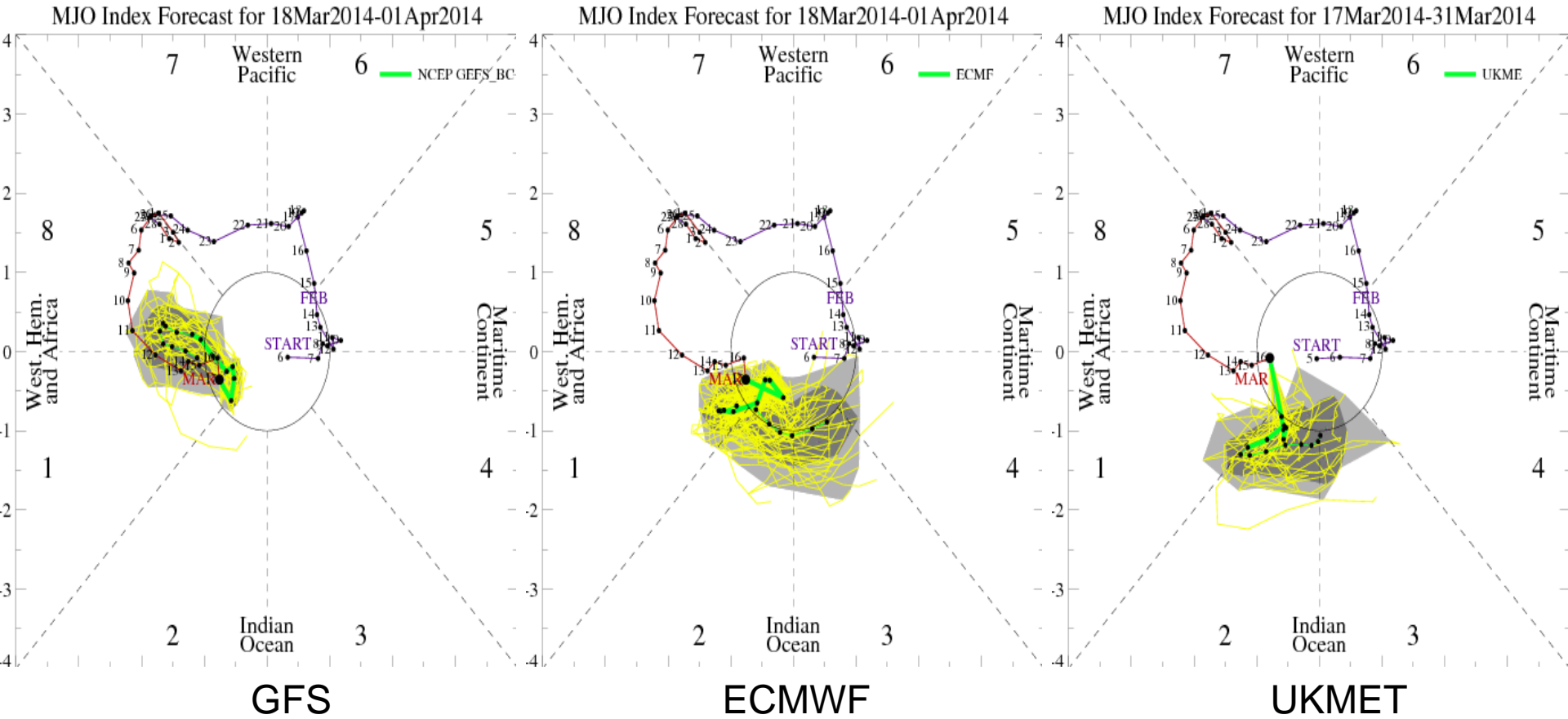
RMM MJO Index

CPC Velocity Potential MJO Index

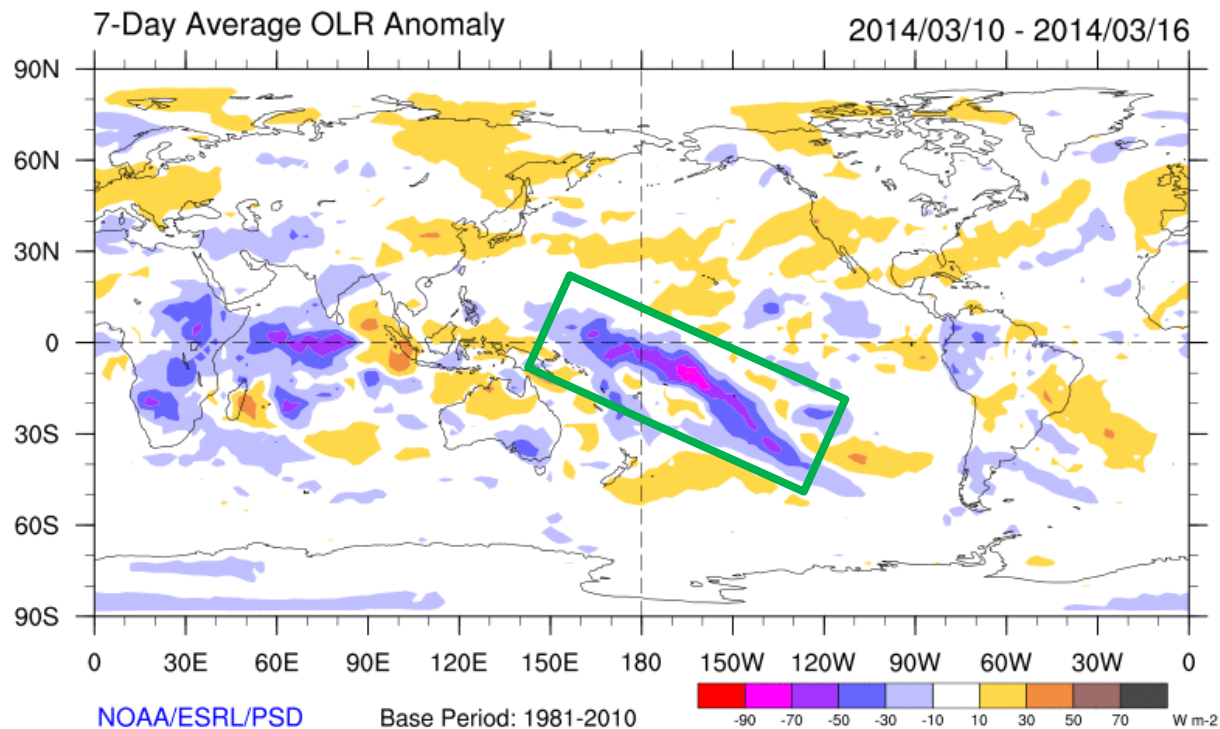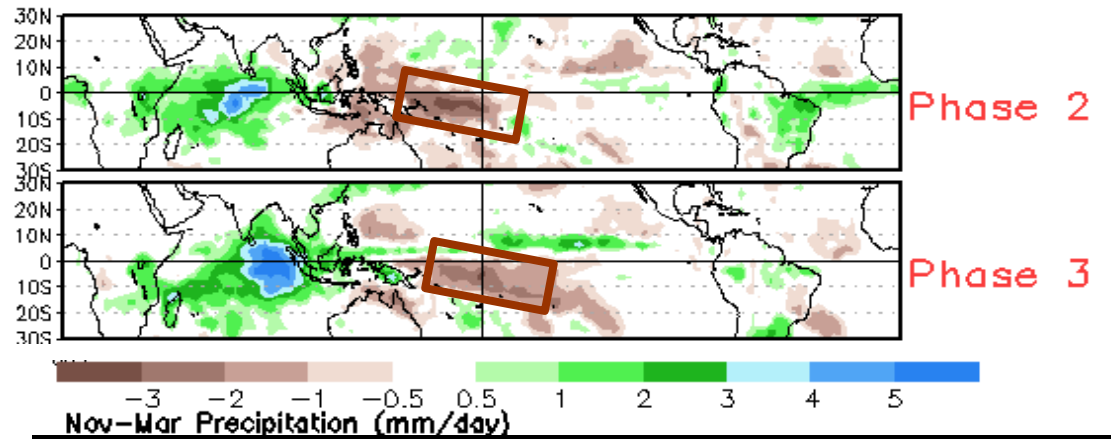# IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence   Brown: Enhanced Convergence

MJO Observation/Forecast

GFS

ECMWF

UKMET

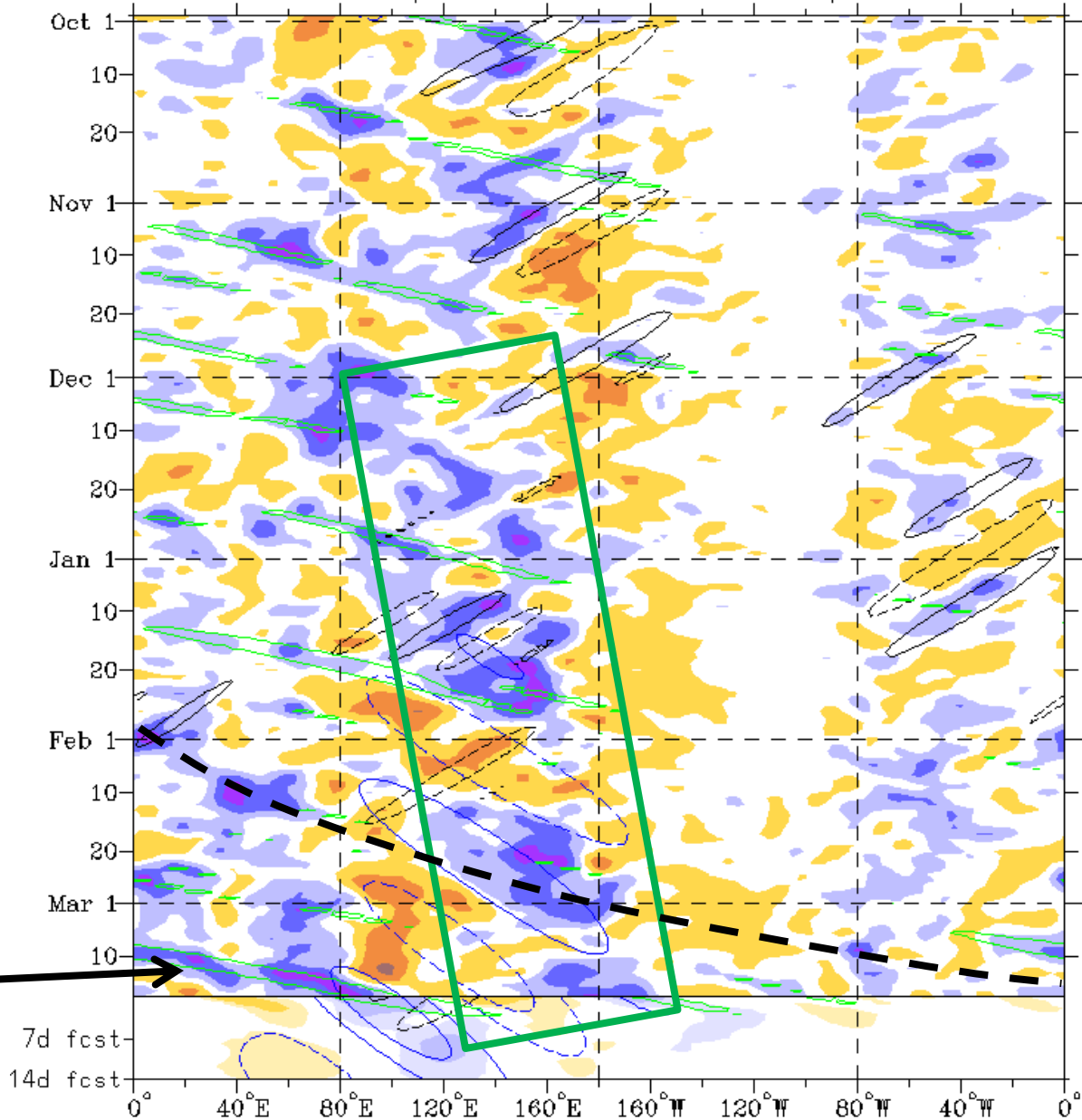# Average Conditions when the MJO is present (Nov - Mar)

Comparison of MJO composites with recent conditions

A slowly evolving low-frequency state favoring enhanced convection and associated with above normal SSTs has shifted slowly eastward to the west-central Pacific during the past several months (green box).

Higher frequency modes have modulated the base state convection.

MJO signal (dashed line)

Kelvin Wave

EQ. Upper−Ocean Heat Anoms. (deg C)

Pentad centered on 14 MAR 2014
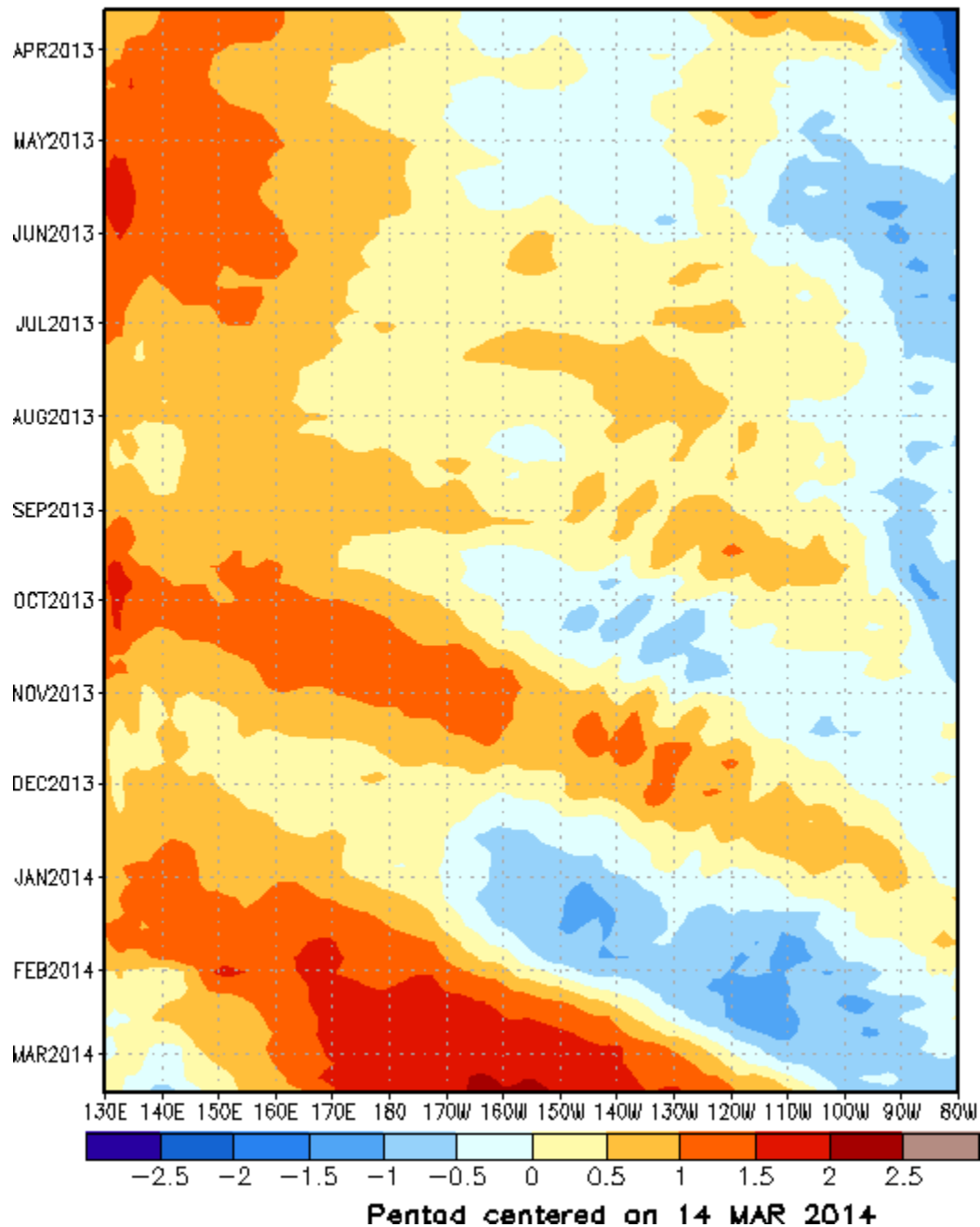
Strongest downwelling oceanic Kelvin Wave this time of year since 1997

Week 1 Anomalies (mm/day)　　　　18Mar2014–24Mar2014

−20 −16 −12 −8 −4 −2 −1　1　2　4　8　12　16　20

Week 2 Anomalies (mm/day)　　　　25Mar2014–31Mar2014

−20 −16 −12 −8 −4 −2 −1　1　2　4　8　12　16　20
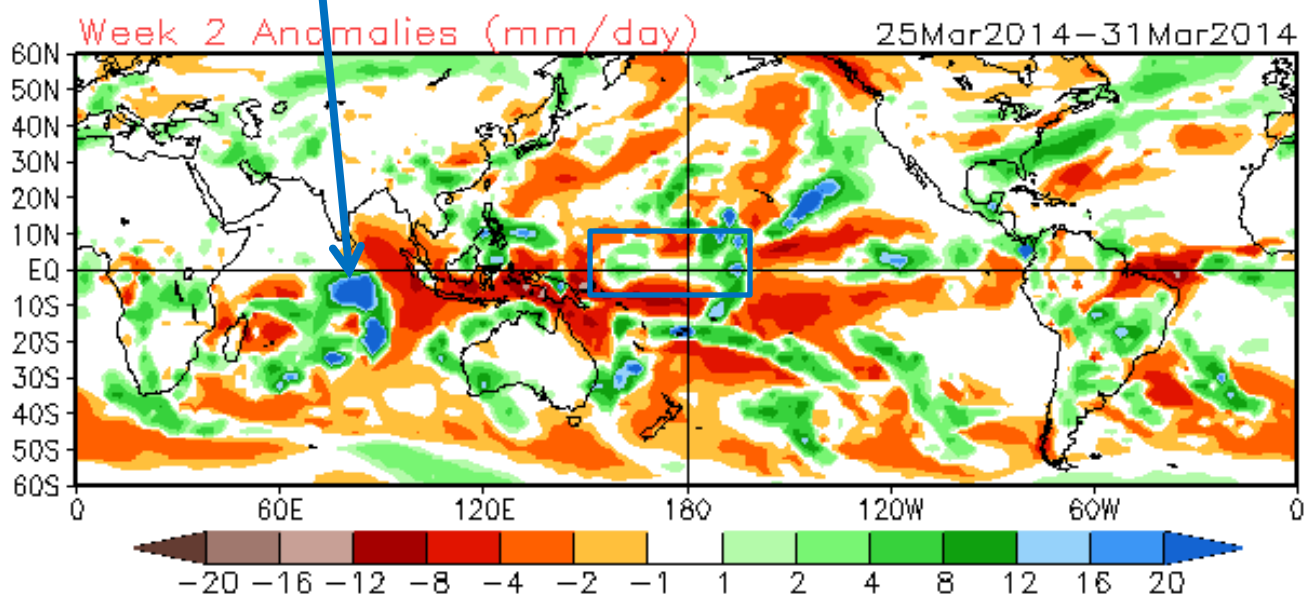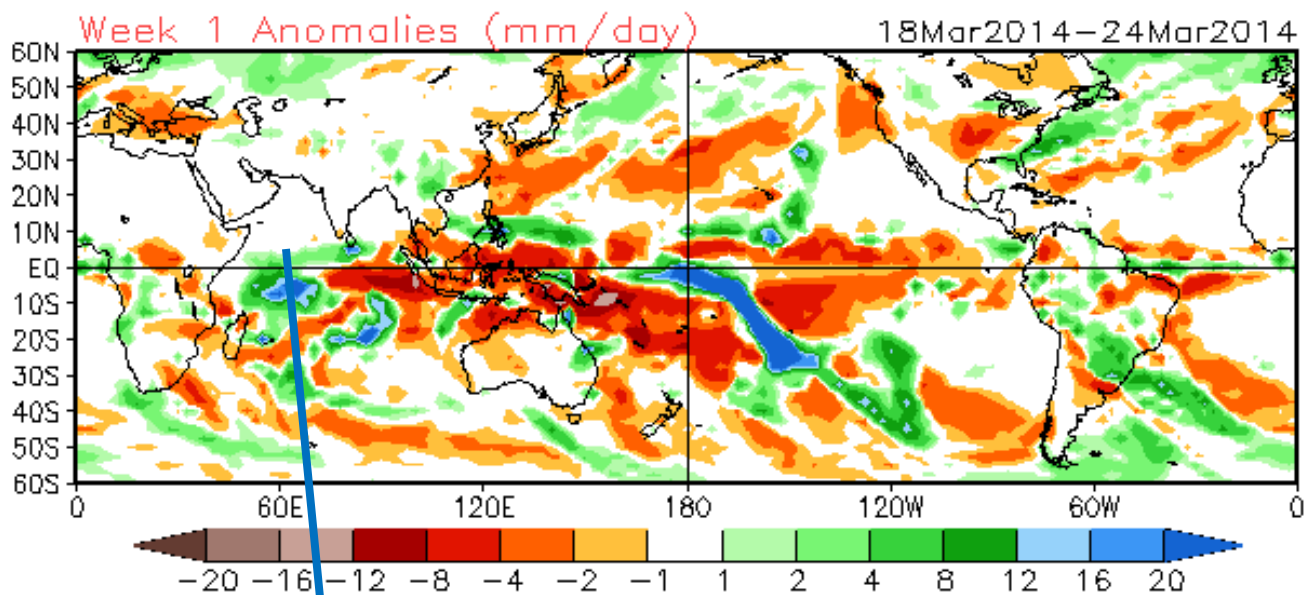
March Tropical Storm Formation by MJO phase
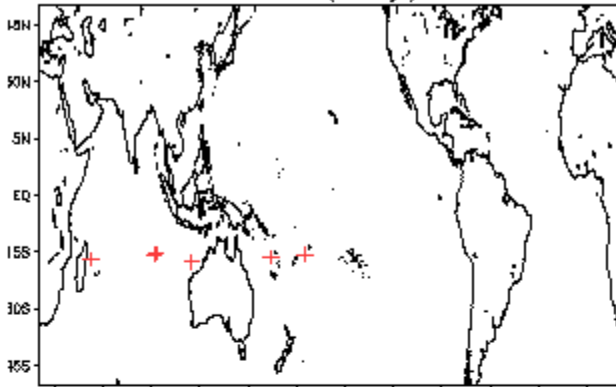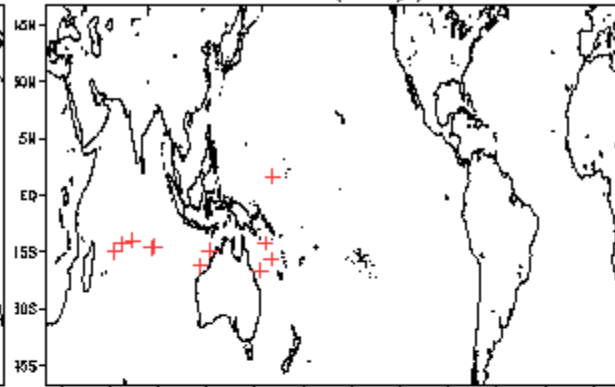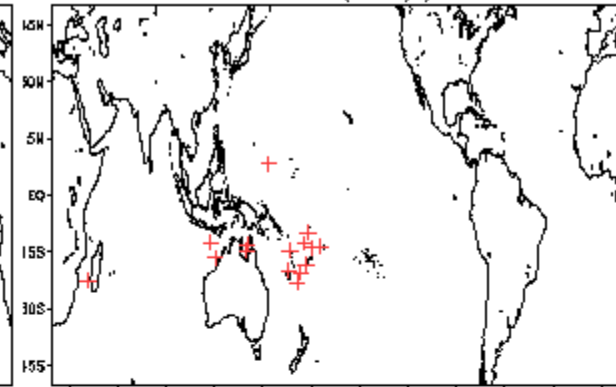
CWB TC Tracker for NCEP GEFS (Fuzzy_AllCriteria)

TC Track(0–384 hr) 2014031800 NCEP GEFS

Track Count (0–96 hr) NCEP GEFS

Days 1-4

Track Count (102–192 hr) NCEP GEFS

Day 5-8

Track Count (198–288 hr) NCEP GEFS
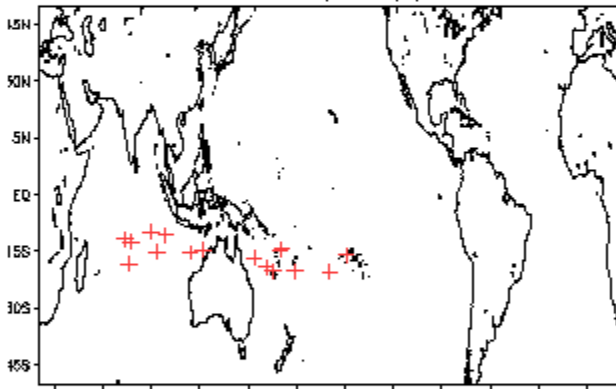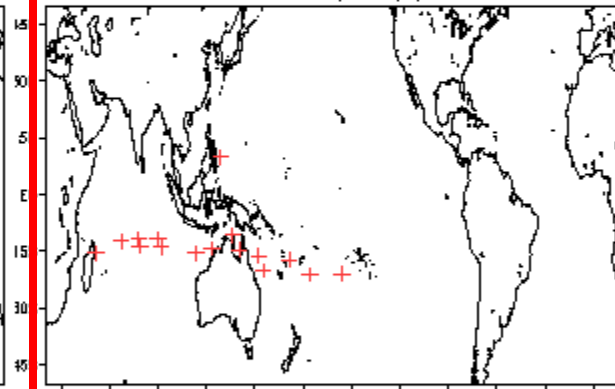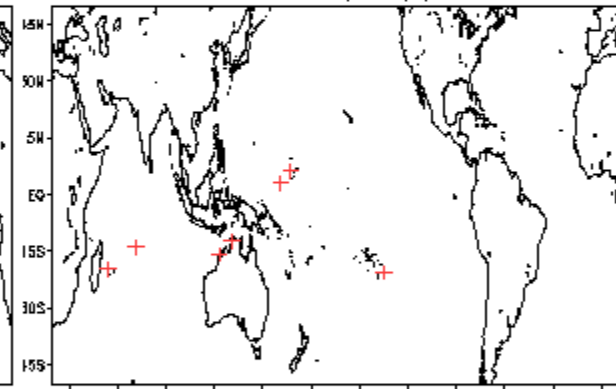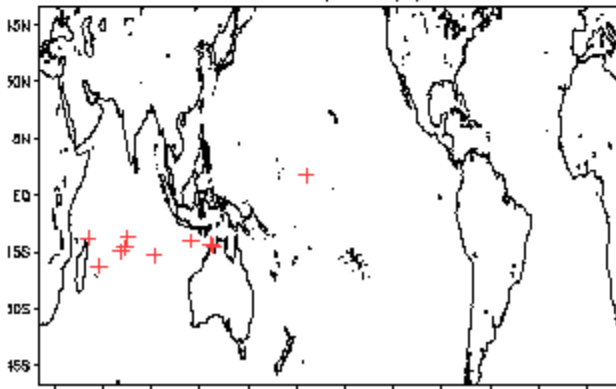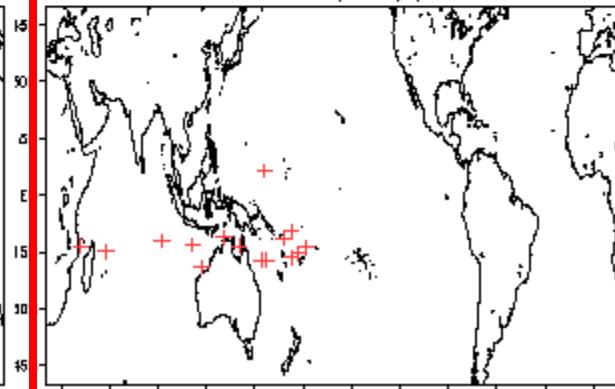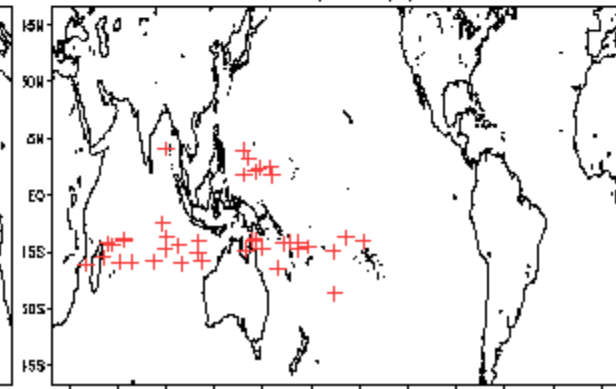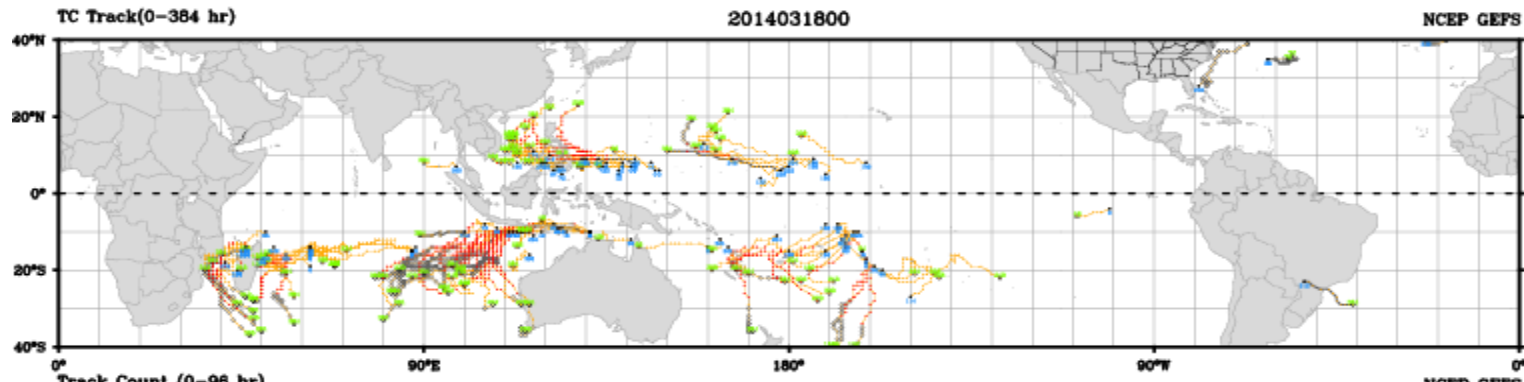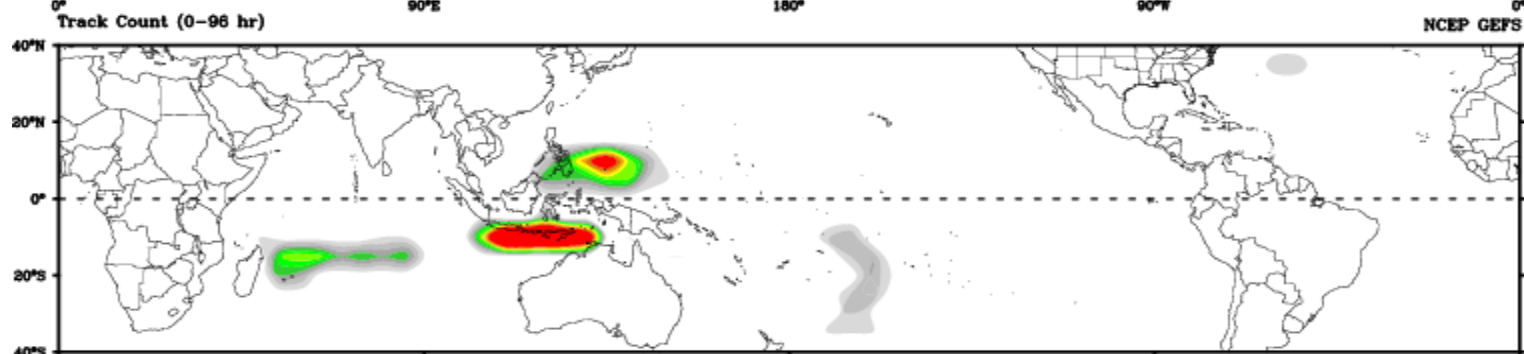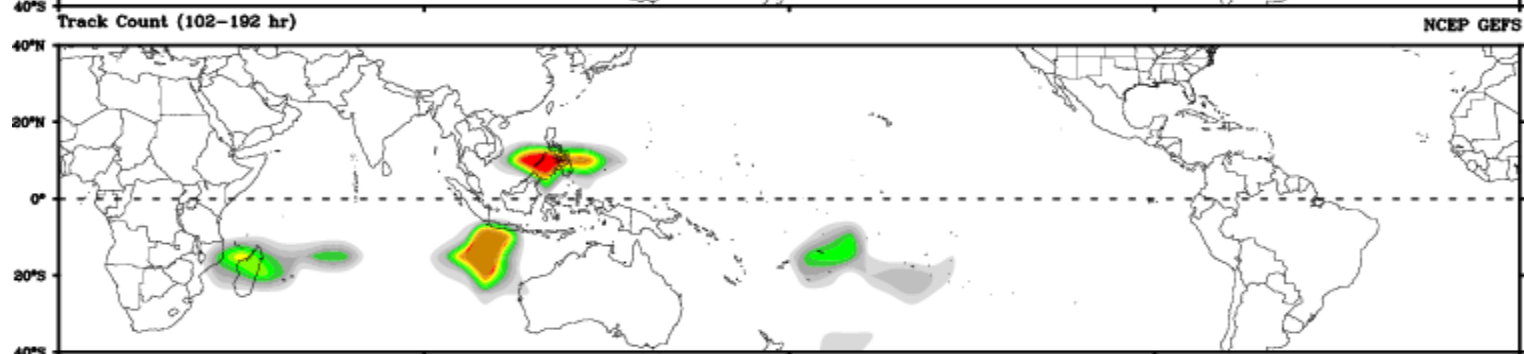
Day 9-12
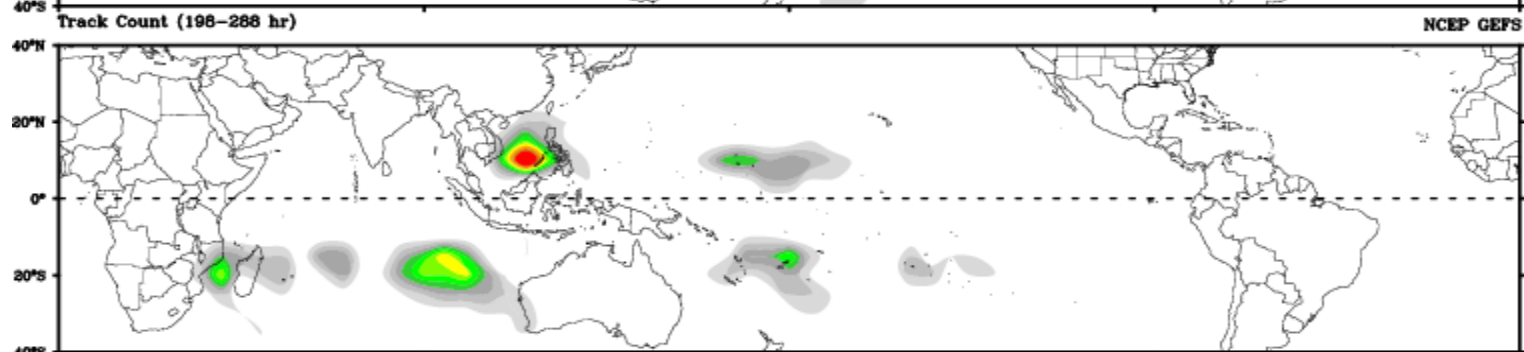
Connections to U.S. Impacts

AO: Observed & ENSM forecasts

1000mb Z (Obs: 19Nov2013 – 18Mar2014)   AO index

1000mb Z (7day Forecast)   AO index

1000mb Z (10day Forecast)   AO index

1000mb Z (14day Forecast)   AO index
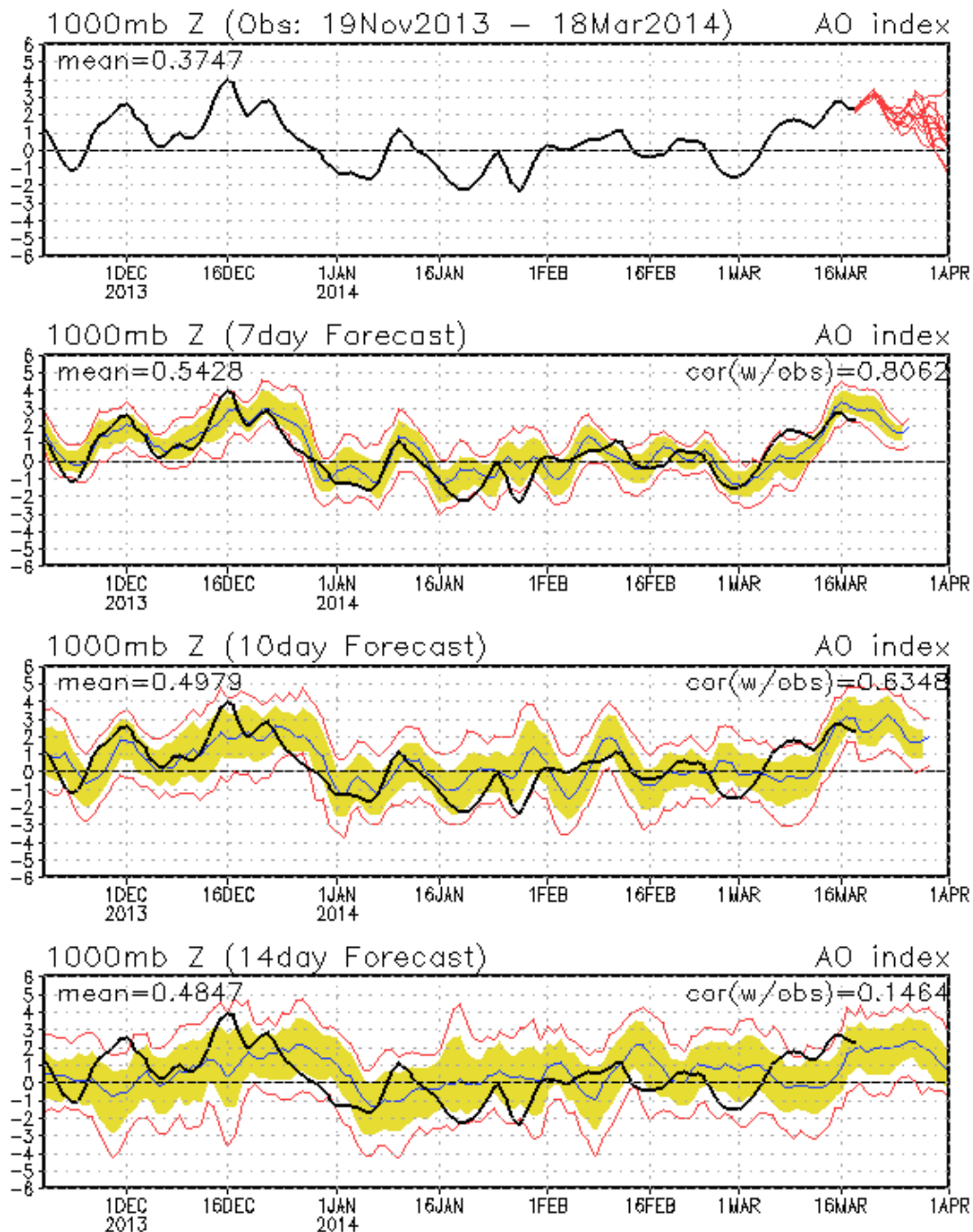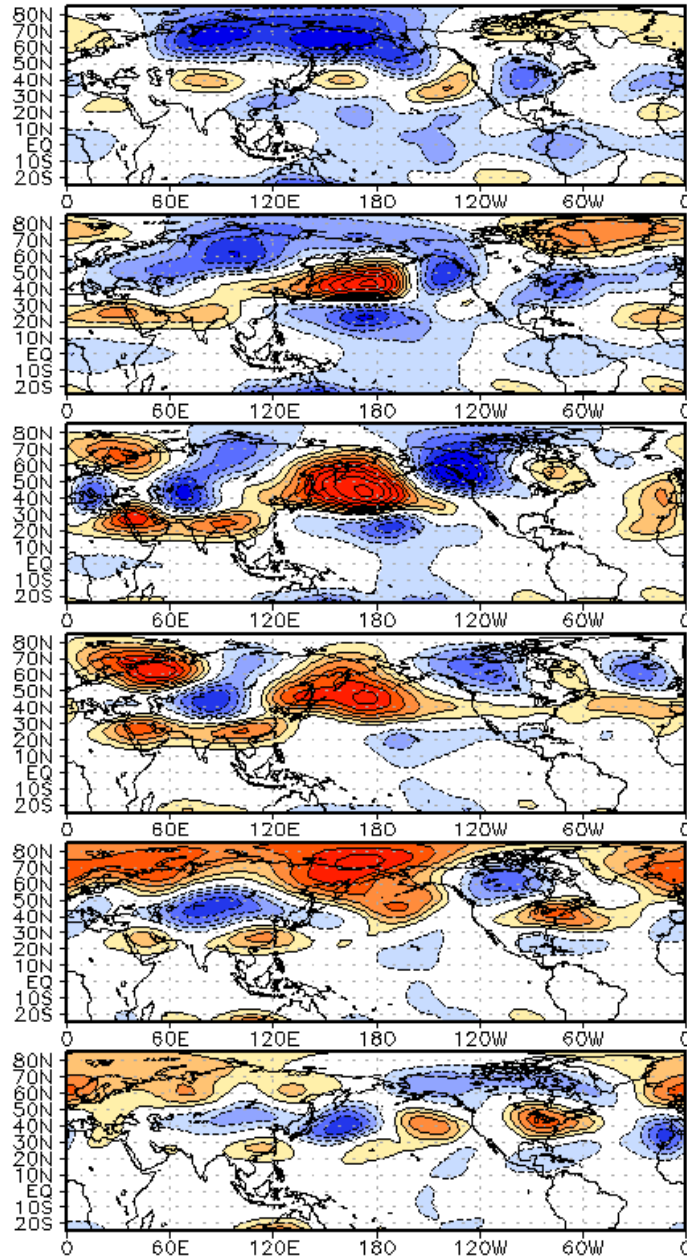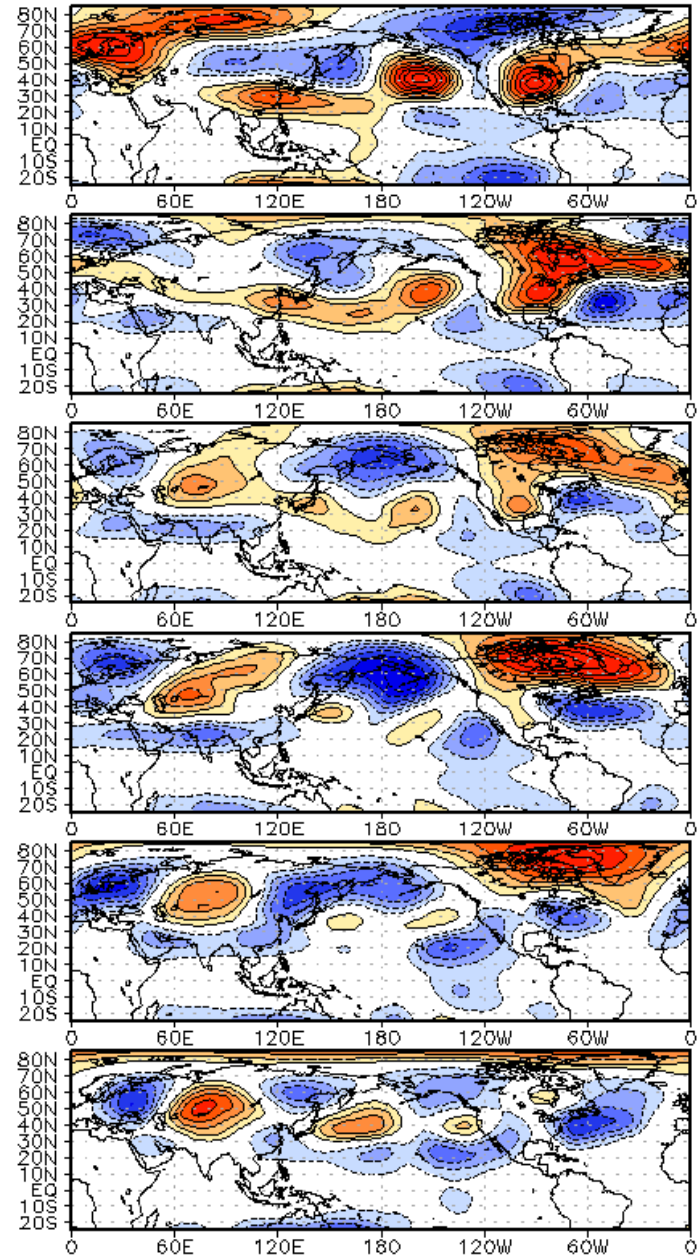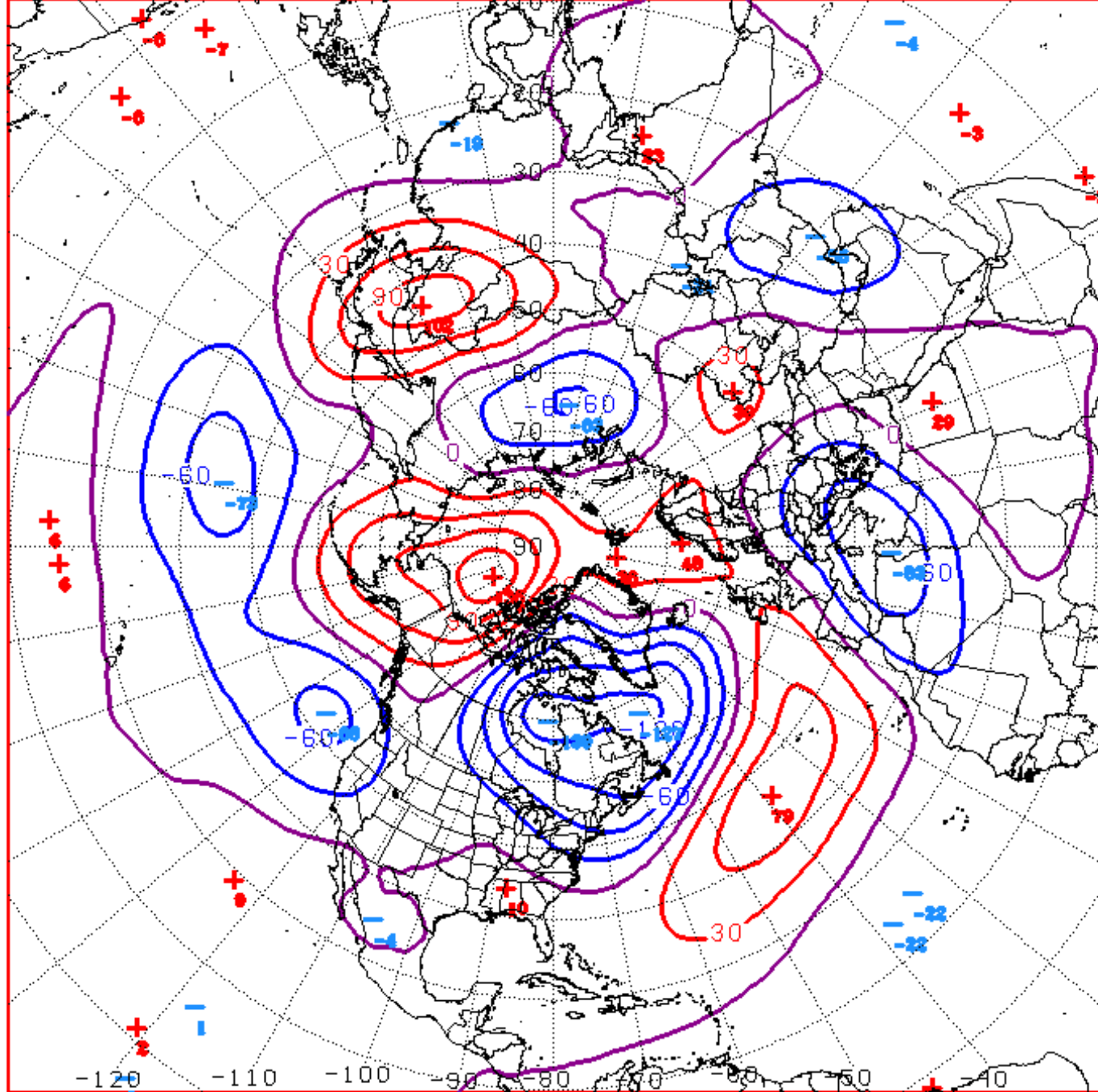
MJO Lagged Composites

Indian Ocean Enhanced

WHMJO Phase 2 z200 Lagged Composite (fma)
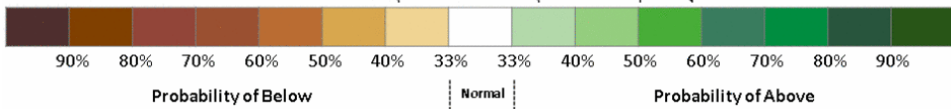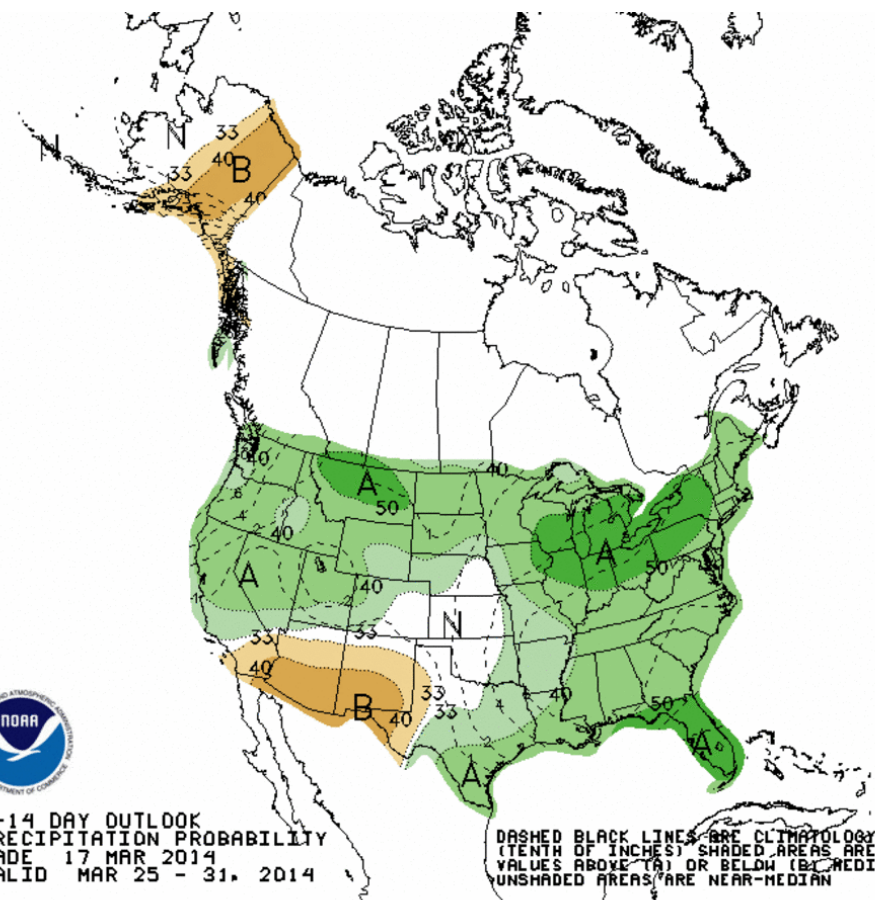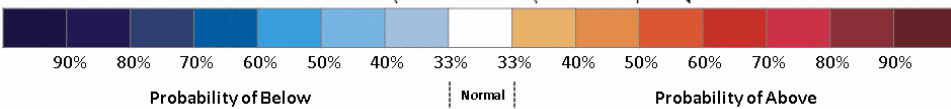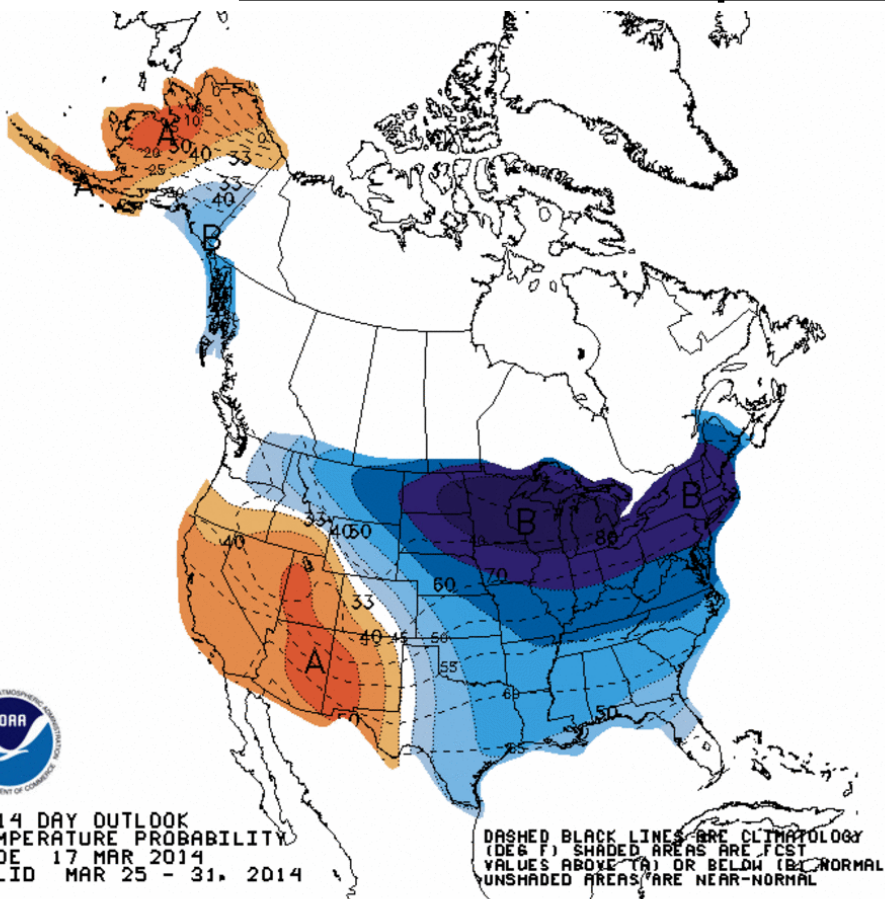

Western Pacific Enhanced

WHMJO Phase 6 z200 Lagged Composite (fma)

D+11 500 MB ANOMALIES FROM 00Z ECMM
CPC MAP MADE MAR 18 2014 1054 UTC CNTD MAR 29 2014

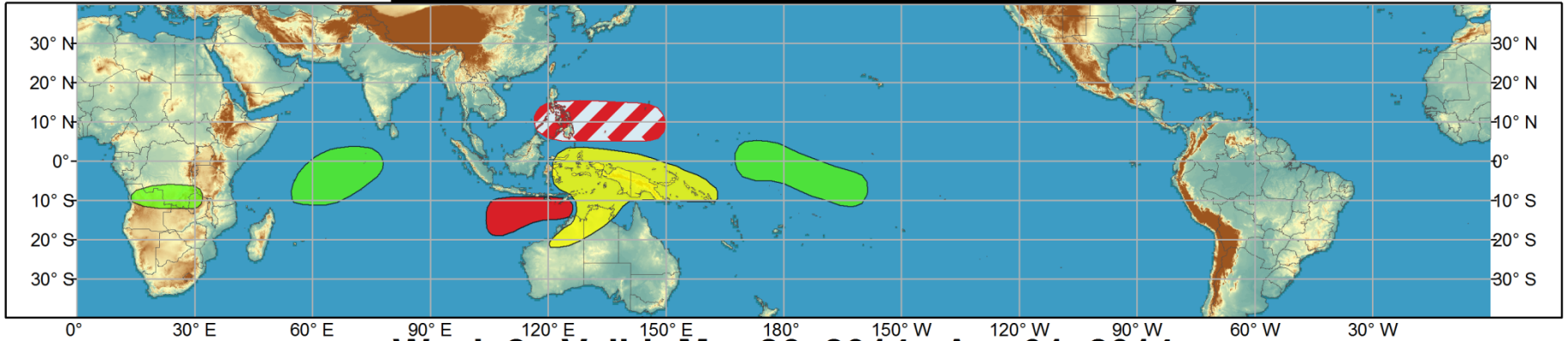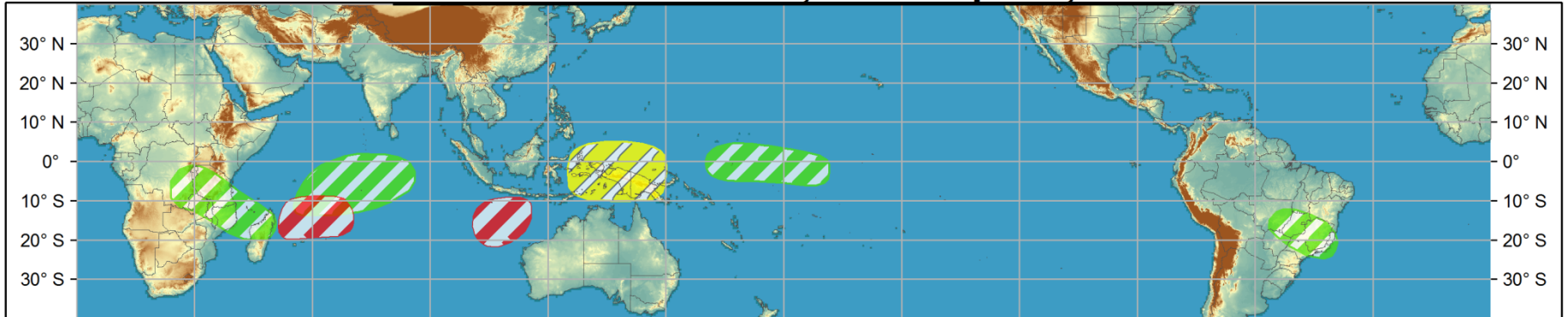# Week 2 – Temperature and Precipitation

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